



## Performer and Performer RPM Aluminum Cylinder Heads

For Small Block Ford V8s

Catalog #s 60219, 60229, 60249, 60259, 60269, 60279, 60289, 60299,  
60319, 60329, 60349, 60359, 60369, 60379, 60389, & 60399

### INSTALLATION INSTRUCTIONS

- Please study these instructions carefully before installing your new cylinder heads. If you have any questions or problems, please call our Technical Hotline at: 1-800-416-8628, 7:00 am - 5:00 pm, Pacific Standard Time, Monday through Friday or e-mail us at: [edelbrock@edelbrock.com](mailto:edelbrock@edelbrock.com).
- **DESCRIPTION:** The Edelbrock Performer, Performer RPM, and Performer 5.0/5.8L Street Cylinder Heads are designed for street high performance use, and are interchangeable with original equipment small-block Ford cylinder heads. Performer Ford and Performer 5.0/5.8L heads have exhaust crossover and air injection passages and are street legal in all 50 states. Contact Edelbrock for the current E.O. number if required for emission validation. Edelbrock cylinder heads offer "out-of-the-box" bolt-on performance with no additional porting required. The performance range is 1500-6500 rpm for great throttle response as well as top-end horsepower. The intake and exhaust ports are CNC machine "matched" and have been designed for maximum flow velocity when matched with either the Performer or the Performer RPM intake manifold, Performer-Plus or Performer RPM cam kit, and Performer Series Carburetors. The Performer RPM Power Package produced 400 horsepower in dyno tests on 351-W engines. These heads are designed to use 1/2" head bolts. On 289-302 engines with 7/16" head bolts, you must use Edelbrock head bolt bushings with integral washers #9680 and Edelbrock head bolt kit #8552 or stock 7/16" head bolts.
- **IDENTIFICATION:** These heads are available individually, either bare or assembled, with either 1.90" or 2.02" intake valves for the following applications:
  - Performer RPM Ford head #60219 (bare, 1.90") or #60249 (bare, 2.02"); #60229 (complete, 1.90") or #60259 (complete, 2.02") - For non-emission-controlled 289, 302, and 351-W V8s with rocker studs and pushrod guideplates (Will not accept rail rockers).
  - Performer Ford head #60319 (bare, 1.90") or #60349 (bare, 2.02"); #60329 (complete, 1.90") or #60359 (complete, 2.02") - For emission-controlled 1965 & later 289, 302, and 351-W with rocker studs and pushrod guideplates (Will not accept rail rockers).
  - Performer 5.0/5.8L Ford head #60369 (bare, 1.90") or #60389 (bare, 2.02"); #60379 (complete, 1.90") or #60399 (complete, 2.02") - For emission-controlled 1982 & later 5.0/5.8L V8s with pedestal mount rocker arms (Will not accept rail rockers).

Complete cylinder heads are assembled with the following components: Stainless steel, one-piece, swirl-polished intake and exhaust valves with under-cut stems for increased flow; 2-ring positive oil controls seals; 3/8" rocker studs and 5/16" guideplates; Edelbrock Sure-Seat Valve Spring #5767, retainers #9724, valve keepers #9611. Complete cylinder heads are assembled with hardened valve spring seats and prepared for installation right out of the box. Bare cylinder heads will have valve guides and seats installed, but will require final sizing and a valve job to match the valves you will be using.

- **ACCESSORIES:** Although Edelbrock Street Cylinder Heads will accept OEM components (rocker arms, valve covers, intake manifold, head bolts [351-W only], etc.), we highly recommend that premium quality hardware be used with your new heads. See our catalog for details. To order a catalog, call (800) FUN-TEAM.

**Head Bolts or Studs:** High quality head bolts or head studs with hardened washers must be used to prevent galling of the aluminum bolt bosses. Recommended head bolts are ARP #254-3708 for engines with 7/16" head bolt holes (289 and 302). You may use Edelbrock Head Bolt Kit #8552 or stock 7/16" bolts on 289-302 engines only if you purchase Edelbrock head bolt bushings with integral washers #9680. Engines with 1/2" diameter head bolts (351-W and 302 SVO) use Edelbrock Head Bolt Kit #8553 or stock 351-W bolts with high quality head bolt washers such as ARP #200-8533. **NOTE:** It is recommended that 289-302 engines producing 380 or more horsepower (or with nitrous oxide) be converted to accept 1/2" diameter head bolts by a qualified machine shop to ensure maximum head gasket durability.

**Rocker Arms:** The valve springs supplied will accommodate valve lifts up to .575", which is much higher than stock rocker arms will allow. Roller rocker arms will be required if your camshaft has more than .480" lift. Stock rockers may require longer-than-stock pushrods to clear the valve springs.

**Valve Covers:** Because most roller rockers are physically larger than stock rockers, taller valve covers are usually required to clear them. For heads #60259 and #60359, use Edelbrock Signature Series chrome valve covers #4260, or cast aluminum Classic valve covers #4160. Performer 5.0/5.8L heads #60379 and #60399 accept stock 5.0/5.8L valve covers, which are required for component clearance on most street applications.

**Intake Manifold:** Although stock intake manifolds will fit, the Edelbrock Street Cylinder Heads are matched in size and operating range with Edelbrock Performer or Performer RPM intake manifolds. If the Performer or Performer RPM is too tall to fit under your hood, you may use the EdelbrockTorker II manifold (#5021 or #5081). Additionally, any manifold that matches Edelbrock gasket #7220, or Fel-Pro gasket #1250 may be used (Edelbrock Performer, Torker II, Victor Jr., etc.)

**Exhaust Headers:** Any header or manifold designed for original equipment heads will fit the Edelbrock Street Cylinder Heads. Exhaust ports are CNC-profiled to match Edelbrock #7227 or Fel-Pro #1415 exhaust gaskets, which are recommended for this application. For maximum performance, the opening of exhaust header flange should match an Edelbrock #7227 or Fel-Pro #1415 gasket.

Spark Plugs: Use 14mm x 3/4" reach gasketed spark plugs. Heat range will vary by application from Champion RC9YC to Champion RC14YC. The RC12YC is the plug used in the RPM applications (or equivalent). Use anti-seize on the plug threads to prevent galling in the cylinder head, and torque to manufacturer's specification for aluminum heads.

Head Gaskets: Head gaskets requirements change according to the application for which the cylinder heads are being used. Use the following as a guide for head gasket selection.

1. Engines with low or stock compression ratios (8-10:1), stock size head bolts (7/16"), and applications where the cylinder head is being used as a stock replacement or a performance upgrade with the stock piston volume, without nitrous or forced induction (blowers or turbos) - use Edelbrock head gasket #7313 or Fel-Pro Head Gasket, #9333-PT1.
2. Medium performance engines, 10-12:1 compression ratio, increased pre-load cylinder head fasteners (7/16" stud or 1/2" head bolts or studs), not recommended with nitrous or forced induction - Edelbrock head gasket #7313 or Fel-Pro Head Gasket, #1011-2.
3. Highest performance racing engines. 12:1 and above compression ratio, 1/2" cylinder head fasteners designed for the highest pre-load, engines using nitrous or forced induction - Fel-Pro Head Gasket #1006 Locwire. NOTE: This gasket will require a groove to be cut in the deck surface of the cylinder head by a competent machine shop to Fel-Pro specifications. See "OTHER ASSEMBLY TIPS:" below.

NOTE: For applications 1 & 2 above, Edelbrock Cylinder Head Gasket Set #7364 may also be used. This gasket set includes all gaskets necessary for installation of Edelbrock cylinder heads, including cylinder head, intake manifold, exhaust, and valve cover gaskets.

• **INSTALLATION:** Before final installation of the cylinder heads, several things need to be checked to assure proper engine operation:

1. Check the upper deck to see if you have an early or late model block (not needed with 351-W): a) Late model 289-302 blocks have the water passages located next to the head bolt location on the deck of the block (This block will not require drilling). b) Early 289-302 blocks will have the water passages located directly over the cylinder upper deck area and will require drilling 1/8" steam holes as seen in Figure 2.
2. Piston to Valve Clearance - Minimum intake valve clearance should be .080". Minimum exhaust valve clearance should be .110". The point of minimum intake valve to piston clearance will usually occur somewhere between 5° and 20° ATDC during valve overlap. The point of minimum exhaust valve to piston clearance will usually occur 20° to 5° BTDC during valve overlap. With #60259, #60359 and #60399 heads, re-machining of the piston top eyebrows may be required with some pistons. Heads with 1.90" intake valves (#60229, 60329, & 60379) should be compatible with stock pistons in engines that have the stock or recommended camshafts.
3. Proper Hydraulic Lifter Pre-Load and Rocker Geometry - With #60229, #60259, #60329 and #60359 cylinder heads, hydraulic lifter pre-load is easily adjustable due to the stud/guideplate design. On #60379 and #60399 Performer 5.0/5.8L heads, adjustments to lifter pre-load with non-adjustable pedestal bolt-down style rockers can only be made with shims as sold by Ford SVO #M-6529-A302 or Crane #99170-1. Rocker geometry should be checked making sure that the contact point of the roller or pad on a stock rocker remains properly on the valve tip and does not roll off the edge. Visual inspection of the rockers, valve springs, retainers, and pushrods should be made to ensure that none of these components come into improper contact with each other. If problems with valve train geometry occur, simple changes such as pushrod length may have to be made.

• **OTHER ASSEMBLY TIPS:**

- When installing the sparkplugs and exhaust manifolds, be sure to use a high temperature anti-seize compound on the threads to reduce the possibility of thread damage in the future.
- Do not exceed a torque of 16-18 ft./lbs. on the intake manifold bolts and lubricate the bolt threads prior to assembly.
- For emissions passage equipped cylinder heads (#60329, #60359, #60379, & #60399), plugs have been supplied for the air injection passage, which is drilled in the end of the heads. The plugs should be installed in the front of the heads to seal off the passages, and the stock air injection manifold is installed on the back of the engine in the stock location.
- If pushrod to cylinder head contact is a problem, loosen rocker studs and re-position guideplate as needed for clearance.
- Installation is the same as for original equipment cylinder heads. Consult service manual for specific procedures, if necessary. Head gasket recommendations are listed in the head gasket section. Be sure that the surface of the block and the surface of the head are thoroughly cleaned to remove any oily film before installation. Use alcohol or lacquer thinner on a lint-free rag to clean. Apply moly-oil mixture to head bolt threads, washer, and area under head bolt to prevent galling and improper torque readings. Torque to 70 ft./lbs. for 7/16" bolts (289/302) or 100 ft./lbs. for 1/2" bolts (351-W) in three or four steps following the factory tightening sequence (see Figure 1), then tighten the long (upper) head bolts to 80 ft./lbs. (7/16") or 110 ft./lbs. (1/2"). A re-torque is recommended after initial start-up and cool-down (allow 2-3 hours for adequate cooling).
- Edelbrock offers cylinder heads machined to the proper specifications for use with Fel-Pro Locwire head gaskets only, as follows:

<u>Standard Head #</u>	<u>Machined for Locwire Head Gaskets</u>
60259	60269
60359	60279
60379	60289
60399	60299

**SPECIFICATIONS**

Head Bolt Torque:	7/16" bolts - 70/80 ft./lbs. (short/long bolts) 1/2" bolts - 100/110 ft./lbs. (short/long bolts)	Valve Spring Diameter:	1.45"
Intake Bolt Torque:	16-18 ft./lbs.	Valve Spring Installed Height:	1.800"
Rocker Studs:	3/8" (#6022, 6025, 6032, 6035)	Valve Spring Seat Pressure:	110-120 lbs.
Rocker Stud Torque:	45 ft./lbs. (7/16"-14; #6022-#6035)	Max. Valve Lift:	.575"
Rocker Pedestal Bolt Torque:	18-20 ft./lbs. (5/16"-18; #6036-39)	Pushrod Guideplates:	5/16" Hardened steel (#6022, #6025, #6032 & #6035 only)
Combustion Chamber Volume:	58-60cc	Rocker Arms:	#6022, #6025, #6032, & #6035 accept stock (except rail style) or aftermarket roller type #6037, & #6039 accept stock 5.0/5.8L or aftermarket pedestal bolt down style
Intake Port Volume:	170cc	Pushrods:	#6022, #6025, #6032, #6035 require 5/16" hardened pushrods for use with guideplates #6037 & #6039 use stock pushrods
Exhaust Port Volume:	60cc	Spark Plugs:	14mm x 3/4" reach gasketed seat
Deck Thickness:	5/8"	Recommended Intake Gasket:	Fel-Pro #1250
Valve Seats:	Hardened, interlocking ductile iron, compatible with unleaded fuels	Recommended Exhaust Gasket:	Fel-Pro #1415
Valve Size:			
#60259, #60359 & #60399:	Intake - 2.02", Exhaust - 1.60"		
#60229, #60329 & #60379:	Intake - 1.90", Exhaust - 1.60"		
Valve Locks:	11/32" x 7° (#9611)		
Valve Spring Retainers:	7° 4140 steel (#9724)		

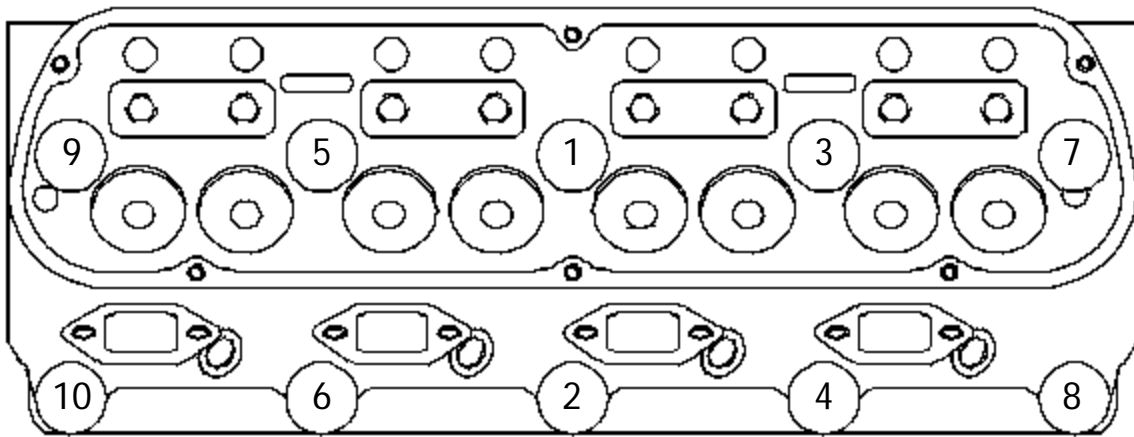


Figure 1 - Head Bolt Tightening Sequence

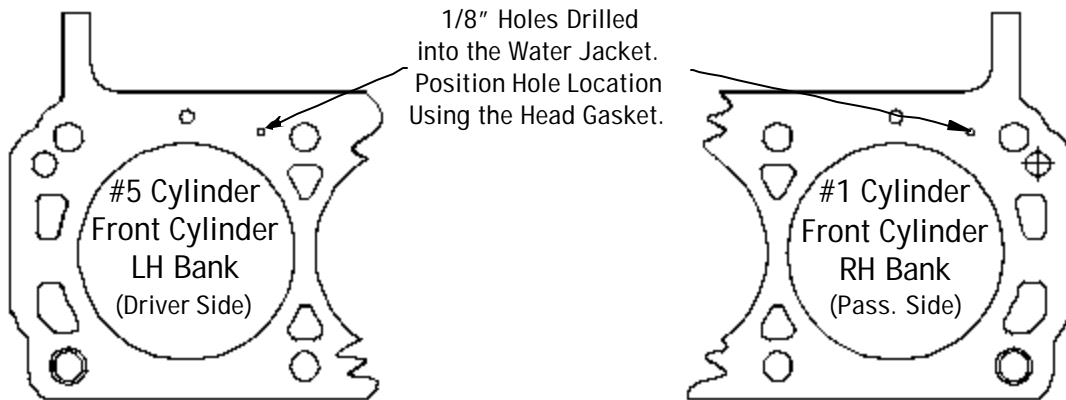


Figure 2 - Steam Hole Locations for Early 289 & 302 Engine Blocks

PLEASE complete and mail your warranty card. Be sure to write the model number of this product in the "Part # \_\_\_\_\_" space. THANK YOU.

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